APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,335	10/13/2000	John T. Flynn JR.	SJ09-2000-0174US1	9824

7590 02/04/2004	EXAMINER
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2114	8

DATE MAILED: 02/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _07 October 2003_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-38_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-4,6,23,24,26,27,29,31,32,34,35 and 37_ is/are rejected.

7)☒ Claim(s) _5,7-22,25,28,30,33,36 and 38_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _13 October 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4)☐ Interview Summary (PTO-413) Paper No(s). _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Marks, et al,

U.S. Patent Number 5,790,775. Regarding claim 1:

        a.   Regarding the limitation of mapping open options of the operating system to SCSI

persistent reserve commands to allow all of the multiple paths to register with the logical

unit number of the shared storage system: Marks discloses a system with a shared

storage system controlled by a SCSI controller over a SCSI bus (Lines 6-8 of Column 5).

        b.   Regarding the limitation of allowing the second of the multiple paths to access the

logical unit number of the shared storage system after obtaining a persistent reservation

with the shared storage system, Marks discloses a system wherein one of the SCSI

controllers, in the event of a failure by another SCSI controller, will assume control of the

SCSI ID of the failed controller. (Lines 20-25 of Column 3).

3.   Regarding claim 2, regarding the limitation of mapping open options, Marks discloses

that the fault tolerant system is an "open system". (Lines 1-3 of Column 3). Regarding the

limitation of registering all paths from a first host with the LUN of the storage system, Marks

also discloses that the each controller is configured to service zero or more SCSI Ids, wherein a controller to access one of the associated units uses the ID. (Lines 12-19 of Column 3).

4.   Claims 23, 24, 26-27, 29, 31, 32, 34-35, and 37 are rejected under 35 U.S.C. 102(a) as being anticipated by IBM's SCSI Command Reference manual (hereby referred to as ISCRM).

5.   Regarding claim 23, the ISCRM discloses a system with reservation keys to identify registered host (Lines 1-4 of Page 22), and processing persistent reservation commands to control access by a host. (Lines 1-6 of Page 23).

6.   Regarding claim 24, ISCRM disclose that persistent reserve out and in commands provide the basic mechanism for dynamic contention resolution in multiple initiator systems using multiple port targets. (3rd-6th Lines of 2nd Paragraph on Page 23).

7.   Regarding claim 26, the ISCRM (provided in the applicant's IDS) contains a list of features that are built into SCSI devices. ISCRM discloses a system with means of gathering information about a persistent reservation and reservation keys for a LUN (Bottom half of page 23).

8.   Regarding claim 27, the ISCRM discloses a system wherein a reservation in command is used to reserve a LUN. (Page 23, Middle of page, Paragraph starting with "To reserve a LUN...").

9.   Regarding claim 29, ISCRM discloses a system with a persistent reserve out command for LUN on a shared storage system. (Middle of page 23, Paragraph starting with "Since persistent reservation...").

10.   Regarding claim 31, the ISCRM discloses a system with reservation keys to identify

registered host (Lines 1-4 of Page 22), and processing persistent reservation commands to

control access by a host. (Lines 1-6 of Page 23).

11.   Regarding claim 32, ISCRM disclose that persistent reserve out and in commands

provide the basic mechanism for dynamic contention resolution in multiple initiator systems

using multiple port targets. (3rd-6th Lines of 2nd Paragraph on Page 23).

12.   Regarding claim 34, the ISCRM (provided in the applicant's IDS) contains a list of

features that are built into SCSI devices. ISCRM discloses a system with means of gathering

information about a persistent reservation and reservation keys for a LUN (Bottom half of page

23).

13.   Regarding claim 35, the ISCRM discloses a system wherein a reservation in command is

used to reserve a LUN. (Page 23, Middle of page, Paragraph starting with "To reserve a

LUN...").

14.   Regarding claim 37, ISCRM discloses a system with a persistent reserve out command

for LUN on a shared storage system. (Middle of page 23, Paragraph starting with "Since

persistent reservation...").

Claim Rejections - 35 USC § 103

15.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

16.   Claim 3, 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marks

as applied to claim1 above, and further in view of IBM's SCSI Command Reference manual

(hereby referred to as ISCRM).

17.   Regarding claim 3, Marks discloses a system with multiple SCSI controllers and a

method for backing up one of the SCSI controllers with the other controller. Marks does not

obtaining information about persistent reservations and reservation keys. The ISCRM (provided

in the applicant's IDS) contains a list of features that are built into SCSI devices. ISCRM

discloses a system with means of gathering information about a persistent reservation and

reservation keys for a LUN (Bottom half of page 23). It would have been obvious to one of

ordinary skill in the art at the time of the invention to include the information gathering of the

ISCRM with the SCSI fail over of Marks. The ISCRM contains information that is standard in

SCSI systems; thereby it would have been included within the SCSI system of Marks.

18.   Regarding claim 4, the ISCRM discloses a system wherein a reservation in command is

used to reserve a LUN. (Page 23, Middle of page, Paragraph starting with "To reserve a

LUN...").

19.   Regarding claim 6, Marks discloses a system with multiple SCSI controllers and a

method for backing up one of the SCSI controllers with the other controller. Marks does not

obtaining information about persistent reservations and reservation keys. ISCRM discloses a

system with a persistent reserve out command for LUN on a shared storage system. (Middle of

page 23, Paragraph starting with "Since persistent reservation..."). It would have been obvious

to one of ordinary skill in the art at the time of the invention to include the information gathering

of the ISCRM with the SCSI fail over of Marks. The ISCRM contains information that is

standard in SCSI systems; thereby it would have been included within the SCSI system of

Marks.

Allowable Subject Matter

20.   Claims 5, 7-22, 25, 28, 30, 33, 36 and 38 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Response to Arguments

21.   Applicant's arguments filed 10/21/2003 have been fully considered but they are not

persuasive.

22.   Regarding claims 1:

c.   Regarding the argument of "Marks does not disclose, teach or suggest at least

'mapping open options of the operation system to SCSI persistent reserve commands'"

(7th paragraph of 1st page of paper number 7). The examiner believes that Marks does

teach the limitation of "mapping open options of the operation system to the SCSI

persistent reserve commands." (See rejection above for claim 1). The examiner contends

that the failover steps (Lines 7-22 of Column 10 also shown in Figure 6, 7A, and 7B steps

102-130) of Marks constitute the mapping, as disclosed in the amended claims of the

applicant. The applicant state "[the mapping] enables use of the shared storage system

via an alternate input/output path upon a hardware failure of a first of multiple

input/output paths". The examiner contends that Marks controller failure failover clearly

teaches this argument; "any device and/or cache currently attached to the failed controller

will automatically become available and accessible through the operating or surviving

controller when the failover operation is thus triggered." (Lines 30-35 of Column 9). In

other words, Marks' failover takes a failed SCSI communications path and redirects it

through a redundant SCSI communications path. (Lines 30-35 of Column 9).

23.   Regarding claims 23 and 31:

d.   Regarding the argument of that "The ISCRM does not teach processing

reservation keys," and "ISCRM does not suggest what operations concerning reservation

keys are performed. Thus, ISCRM, fail to disclose, teach or suggest at least 'processing

reservation keys to identify registered hosts.'" (3rd paragraph, Page 13 of paper number

7). The examiner contends that the ISCRM teaches of persistent reserve keys. (See

rejection of claims 23 and 31 above). The examiner also contends that the ISCRM

clearly shows that reservation keys identify hosts that hold conflicts thereby the ISCRM

teaches of reservation keys identifying registered hosts; "identification of persistent

reservations using the reservation key makes it possible to determine which ports hold

conflicting persistent reservations and to take over persistent reservations from failing or

uncooperative initiators." (2nd paragraph, lines 6-9 of page 23). Using of reservation

keys shows that the ISCRM teaches of processing of reservation keys.

e.   Regarding the argument of that "ISCRM does not disclose, teach or suggest the

more detailed aspect of persistent reserve commands being used to control access by a

host. Thus, ISCRM, fail to disclose, teach or suggest at least processing reservation

commands to control access by a hosts." (4th paragraph, Page 13 of paper number 7).

The examiner contends that the ISCRM teaches of persistent reserve keys. (Line 1-4 of

page 22). The ISCRM also teaching persistent reserve commands when it states that a

"reservation key is set by an initiator with a Persistent Reserve Out command with a

service action of Register. An eight byte reservation key is transmitted in the data of that

command." (2nd paragraph, last 3 lines of page 23). Finally the ISCRM shows

processing of keys, "to reserve a LUN using a persistent reserve the initiation must first

register with the LUN, then issue a persistent reserve out command with a service action

of reserve." (3rd paragraph, all lines of page 23). The transmitting, using, and responding

to the persistent reserve commands clearly shows processing of the keys.

Conclusion

24.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

25.   A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

26.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Tim Bonura.**

> o The examiner can normally be reached on **Mon-Fri: 7:30-5:00, every**
>
>   **other Friday off.** The examiner can be reached at: **703-305-7762.**

27.   If attempts to reach the examiner by telephone are unsuccessful, please contact the

examiner's supervisor, **Rob Beausoliel.**

> o The supervisor can be reached on **703-305-9713.**

28.   The fax phone numbers for the organization where this application or proceeding is

assigned are:

> o **703-872-9306 for all patent related correspondence by FAX.**

29.   Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the **receptionist** whose telephone number is: **703-305-3900.**

30.   Responses should be mailed to:

> o **Commissioner of Patents and Trademarks**
>
>   **P.O. Box 1450**
>
>   **Alexandria, VA 22313-1450**

NADEEM IQBAL
PRIMARY EXAMINER

tmb
January 10, 2004

Tim Bonura
Examiner
Art Unit 2114